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EXAMINER

WALSH, BRIAN D

ART UNIT

PAPER NUMBER

3722

DATE MAILED: 03/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

N.K.

Office Action Summary	Application No. 09/838,305	Applicant(s) ERIKSSON ET AL.	
	Examiner Brian Walsh	Art Unit 3722	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 03 January 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 26 and 27 is/are allowed.
- 6) ☒ Claim(s) 1,3,6-9 and 11-25 is/are rejected.
- 7) ☒ Claim(s) 2,4,5 and 10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 April 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

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FINAL ACTION

Drawings

1. The drawing objection regarding reference signs 147 and 165 is withdrawn in view of applicant's amendment and comments.
2. The drawing objection regarding features not shown in the drawings, specifically "the groove extending parallel to the longitudinal axis of the shaft" from claim 5 is withdrawn. The Examiner acknowledges a groove extending parallel to the longitudinal axis of the shaft is clearly shown in the drawings. Element 21 from figure 4 was overlooked in the original examination.

Response to Amendment

3. The Examiner notes that the marked copy of the claims fails to accurately portray the amendments to the claims. Examples include claim 21, which shows no added or deleted matter, and claim 22, which inaccurately portrays amended matter.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

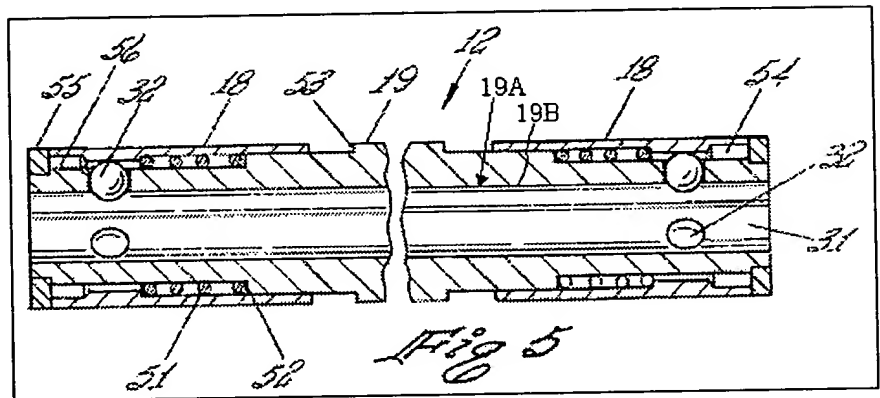
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 1, 3, 6-7, 11, 13-15, 17 and 21 – 25 are finally rejected, as necessitated by amendment, under 35 U.S.C. 103(a) as being unpatentable over Carroll in view of Misuraca.

Regarding claims 1, 21 – 23 and 25, Carroll discloses a cutting tool system comprising a clamping device (18) including a clamping block (62) having an aperture (19A) including an aperture surface (19B).

Carroll further discloses a cutting tool (14) including a front portion at which a



cutting edge is inherently disposed, and a shaft (11) extending rearwardly from the front portion, the shaft being fixed in the aperture by a clamping force that is releasable to enable to the shaft to be displaced relative to the clamping device to a desired position for properly orienting the cutting edge (Col. 1, lines 48 – 50). The shaft (11) disclosed by Carroll comprises an outer envelope surface (71A) facing the aperture surface (19B). Please refer to figures 5 and 7. Carroll further discloses a spring-loaded device (52) projecting from the aperture surface and yieldably engaging a recess (72B) formed in the envelope surface (19B) of the shaft (11) when the cutting tool (14) and its cutting edge are in the desired position, to provide an indication that the cutting tool is in such desired position by requiring a sudden increase in a force necessary to displace the cutting tool from the desired position (Col. 3, lines 25 – 28).

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Regarding Claim 3, it is clear from figures 1 and 6 the shaft (11), when the clamping force is released, is displaceable along a longitudinal axis of the shaft, the spring-loaded device (51) opposing such a longitudinal movement of the shaft.

Regarding claim 6, Carroll discloses a shaft portion (11) and the aperture (19A) define a common longitudinal axis, the envelope surface (71A) being substantially cylindrical, the recess comprising at least one dimple. Please refer to figures 5 and 7.

Regarding Claim 7, as shown in figure 7, Carroll discloses at least one dimple (72A) comprises a line of dimples extending parallel to the axis.

Regarding Claim 11, Carroll discloses the envelope surface (71A) and the aperture (19A) define a common longitudinal axis, the envelope surface and the aperture surface being of polygonal cross-section (please refer to figures 8 and 9), the recess comprising at least one groove (101) lying in a plane oriented perpendicularly to the axis (figure 10).

Regarding Claim 13, Carroll discloses the recess (72A) has a generally V-shaped cross section (figures 8 and 9), the spring-loaded device (52) including a rotatable element (32) engaging the recess and a spring (51) elastically biasing the rotatable element into the recess.

Regarding Claims 14 and 24, Carroll discloses the rotatable element (32) is a sphere (Col. 3, line 15).

Regarding Claim 15, Carroll discloses the spring (51) comprises a coil spring (figure 5).

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Regarding Claim 17, it is clear in figure 6 that Carroll discloses the center of the rotatable element (32) is situated outside of the recess (72A). Please refer to figures 6 and 7.

However, Carroll fails to disclose a clamp actuator arranged to act on a clamping block to cause the clamping block to apply a tool-securing clamping force to the shaft independently of the spring-loaded element.

Misuraca discloses a tool holding device similar to the instant invention including a clamping block (3), which allows axial and rotatable movement of the tool shaft (B) within the clamping block. Misuraca also discloses a clamp actuator (8, 9) arranged to act on the clamping block to cause the clamping block to apply a tool securing force (Col. 1, lines 53 – 61).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the adjustable tool extension device of Carroll to include the clamping features of Misuraca by utilizing the clamping block and clamping actuators (clearly screws, in both Misuraca and the instant invention) in order to provide a tool-securing clamping force since Misuraca teaches the use of the clamping arrangement in order to provide quick and ready adjustment of the tool holding bar in the clamping block (Col. 1, lines 53 – 61).

5. Claims 8 – 9 and 12, are finally rejected, as necessitated by amendment, under 35 U.S.C. 103(a) as being unpatentable over Carroll in view of Misuraca and in further view of Davison.

6. Regarding Claims 8 – 9 and 12, Carroll and Misuraca disclose the elements as set forth in the above rejections, however, Carroll and Misuraca fail to disclose a recess

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comprises at least one or a plurality of grooves spaced apart along the axis at regular intervals lying in a plane oriented perpendicular to the axis.

Davison discloses an adjustable tool holder similar to that of the instant invention which allows for the axial displacement of a tool shank (12), the shank having a cutting tool (14) and attached cutting edge disposed at one end, in relation to a clamping element (26). Davison discloses the use of a spring-loaded element (44) to resist the axial displacement of the shank (12) within the clamping element (46) by way of a plurality of grooves (20) spaced apart the axis at regular intervals (Col. 5, lines 63 – 66).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the cutting tool assembly of Carroll and Misuraca to include the perpendicular grooves from Davison, since Davison teaches the use of the grooves to determine accurately the length of the tool extending from the clamping portion (Col. 5, lines 63 – 66).

7. Claim 16 is finally rejected, as necessitated by amendment, under 35 U.S.C. 103(a) as being unpatentable over Carroll in view of Misuraca and in further view of Sugiura et. al.

Carroll and Misuraca disclose all of the elements as set forth in the above rejections, however Carroll and Misuraca fail to disclose the use of an elastomer as a spring to bias the rotatable element into the recess.

Sugiura et. al. discloses the use of an elastomer spring (23) elastically biasing the rotatable element (22) into the recess (6).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the tool holder of Carroll, with the above

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elements as taught by Sugiura et. al., since Sugiura et. al. teaches the use of urethane rubber (elastomer) for applying pressing pressure to a spherical body in a tool in order to provide a tool to be freely attached and detached from the shank (Col. 5, lines 42 – 46).

8. Claims 18 - 20, are finally rejected, as necessitated by amendment, under 35 U.S.C. 103(a) as being unpatentable over Carroll in view of Misuraca and in further view of Suzuki.

Regarding Claim 18 – 20, Carroll and Misuraca disclose all of the elements as set forth in the above rejections, however, Carroll and Misuraca fail to disclose the recess defines a V-shaped cross section having an angle in the range of 35 – 85°, 55 - 65° or substantially 60°.

Suzuki discloses a coupling device using a rotatable element forced into a recess in a tool. Suzuki explicitly discloses a V-shaped recess formed in a shank for receiving a rotatable element (8) with the center of the rotatable element situated outside the recess and wherein the V-shaped recess has an angle of 60° (Col. 7, lines 5 – 10).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the recess of Carroll to include the cross-section and angular characteristics as taught by Suzuki, since Suzuki teaches the use of the V-shaped recess with 60° angle to keep the rotatable element from falling out of the recess (Col. 7, lines 3 – 6).

9. Claims 22 – 24 are finally rejected, as necessitated by amendment, under 35 U.S.C. 103(a) as being unpatentable over Martindell in view of Misuraca.

Regarding claims 22 – 24, Martindell discloses a tool-clamping device (10) comprising a block (18) having an aperture (22) adapted to receive and clamp a shaft

(102) of a cutting tool, a spring-loaded device (60) mounted in the block and including a shank-contact portion (32) projecting into the aperture for yieldably contacting the shaft. Martindell further discloses a rotatable element or sphere (90) biased toward the aperture by a spring (80).

However, Martindell fails to disclose a clamping actuator for reducing the cross-section of the aperture to clamp the shaft of the tool.

Misuraca discloses a tool holding device similar to the instant invention including a clamping block (3), which allows axial and rotatable movement of the tool shaft (B) within the clamping block. Misuraca also discloses a clamp actuator (8, 9) arranged to act on the clamping block to cause the clamping block to apply a tool securing force (Col. 1, lines 53 – 61).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the adjustable tool extension device of Martindell to include the clamping features of Misuraca by utilizing the clamping block and clamping actuators (clearly screws, in both Misuraca and the instant invention) in order to provide a tool-securing clamping force since Misuraca teaches the use of the clamping arrangement in order to provide quick and ready adjustment of the tool holding bar in the clamping block (Col. 1, lines 53 – 61). Furthermore, it is clear that the shaft in Martindell is only held in place by the collar (60). Adding a clamping block would more securely fix the shaft within the device.

Response to Arguments

10. Applicant's arguments filed 03 January, 2003 have been fully considered but they are not persuasive. Applicant argues that Carroll fails to disclose a plurality of longitudinally spaced recess formed for selectively receiving a shaft position indicator and only shows a single annular groove (101). The Examiner reminds Applicant that figure 7, which is referred to in both Office Actions, clearly illustrates longitudinally spaced recesses (12a, 72b) as claimed in claim 21.

As well, Applicant argues that none of the references cited disclose a spring-loaded element yieldably contacting a tool shaft. The Examiner finds this argument non-persuasive since, like the instant invention, when the tool is locked into position the spring-loaded device is immovable. In the instant invention, once the clamping force is applied, the spring-loaded element is not movable. Similarly, in Carroll and Martindell, once the collars (12 and 60, respectively) are in the working position, the spring-loaded element is not movable. The elements from Misuraca combined with the device set forth in Carroll does not destroy the workability of Carroll and would function in a manner identical to Applicant's invention.

11. Applicant's arguments with respect to claim 22 as well as other claims including the "clamping actuator" have been considered but are moot in view of the new ground(s) of rejection.

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Allowable Subject Matter

12. Claims 2, 4 – 5 and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

13. Claims 26 and 27 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 2 and 4, examples in the prior art teach the rotation of a tool shank within a clamping block however, the prior art did not disclose nor render obvious a boring bar being rotatable about a longitudinal axis of the shaft in relation to a released clamping block while being opposed by a spring-loaded device.

Regarding claims 5 and 26, the prior art did not reveal nor render obvious the use of a groove recess extending along a longitudinal axis common to the shaft and aperture to be engaged by a spring-loaded device necessitating a sudden increase in force to displace the cutting tool from a desired position.

Regarding claims 10 and 27, the prior art did not disclose nor render obvious the spacing of groove lying in a plane oriented perpendicular to the shank axis at 10 mm.

Conclusion

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Faxing of Responses to Office Actions

14. In order to reduce pendency and avoid potential delays, TC 3700 is encouraging FAXing of responses to Office Actions directly into the Group at (703) 872-9302. This practice may be used for filing papers not requiring a fee. It may also be used for filing papers which require a fee by applicants who authorize charges to a PTO deposit account. Please identify the examiner and art unit at the top of your cover sheet. Papers submitted via FAX into TC 3700 will be promptly forwarded to the Examiner.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Walsh whose telephone number is (703) 605-0638. The examiner can normally be reached on Monday - Friday 7:30 A.M. to 4:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrea Wellington can be reached on (703) 308-2159. The fax phone numbers for the organization where this application or proceeding is assigned are (703)


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872-9302 for regular communications and (703) 872-9303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1148.



BDW
February 24, 2003



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SUPERVISORY PATENT EXAMINER
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